

## MODIS IOT Weekly Report

Mission Operations Days: 2000/211 to 2000/217

July 29, 2000 20:00:00 GMT to August 4, 2000 20:00:00 GMT

### Terra Spacecraft and MODIS Instrument Status:

Terra (AM-1) is in Normal Mode

MODIS is in Science Mode

MODIS has an anomaly with the LWIR focal plane. See description below.

Blackbody	A On; B Off	Nominal
Calibration Electronics	A On; B Off	Nominal
Control Processor	A On; B Off	Nominal
Door: Nadir	Unlatched, open	Nominal
Space View	Unlatched, open	Nominal
Solar Diffuser	Unlatched, closed	Nominal
FDDI Formatter	A On; B off	Nominal
FIFO Memory	1 & 2 On; 3 & 4 Off	Nominal
Format Processor	A On; B off	Nominal
PC FPA	A On	Nominal
Power Supply:1	On	Nominal
2	Off	Nominal
PV FPAs: VIS	A On	Nominal
NIR	A On	Nominal
SMIR	A On	Nominal
LWIR	A On	Nominal
Radiative Cooler:		
Outgas Heaters	Off	Nominal
LWIR FPA Heater	On	Nominal
SMIR FPA Heater	Off	Nominal
Scan Assembly	A On; B off	Nominal
SDSM	Off	Nominal
SRCA	Off	Nominal
Survival Heaters: PS1	Enabled	Nominal
PS2	Enabled	Nominal
Timing Generator	A On; B Off	Nominal
Flight Software	Rev BD	Nominal
Inhibit Ids Set	None	Nominal
TMONs enabled	66,67	Nominal

### This Week's Completed MODIS Activities:

Saturday, July 29, 2000

None

Sunday, July 30, 2000

None

Monday, July 31, 2000

213/00:16:47	ATC – PV Ecal
213/00:20:47	ATC – PC Ecal
213/12:26:06 – 12:59:39	ATC - OA19 SRCA Full Radiometric
213/12:00:00	ATC - Blackbody to 270K
213/13:28:05 – 13:37:09	Data Loss

Tuesday, August 1, 2000

214/06:00:00	ATC	Blackbody to 280K
214/10:00:00	ATC	Blackbody to 285K
214/12:00:00	ATC	Blackbody to 290K
214/14:00:00	ATC	Blackbody to 295K
214/14:00:30	ATC	Set Blackbody duty cycle to 100%
214/16:00:00	ATC	Blackbody to 300K
214/18:00:00	ATC	Blackbody to 315K
214/20:05:00	ATC	Blackbody to 270K
214/20:05:30	ATC	Set Blackbody duty cycle to 33%

Wednesday, August 2, 2000

215/12:13:43 – 13:11:14	ATC – OA23 SRCA Full Spatial
215/19:00:00	ATC Blackbody to 290K
215/19:30	Drag Make-up Maneuver

Thursday, August 3, 2000

216/05:29:43	ATC	OA15 - SD/SDSM Open
216/07:08:36	ATC	OA16 - SD/SDSM Screened
216/07:57:25 – 08:49:04	ATC – OA22 SRCA Full Spectral, 30W part I	
216/09:52:13 – 10:26:58	ATC – OA22 SRCA Full Spectral, 30W part II	
216/11:14:41 – 12:05:57	ATC – OA22 SRCA Full Spectral, 10W part I	
216/13:10:00 – 14:01:16	ATC – OA22 SRCA Full Spectral, 10W part II	
216/20:02:00	ATC	Blackbody to 270K
216/20:04:12	Real-time –	Turn on LW FPA Heater
216/20:04:59	Real-time –	Set focal plane temp to 85
216/20:48 - 21:01	Real-time –	Set new gains for bands 24, 25, 27
216/21:35	Real-time –	Dump Gain table failed due to timing issues
216/22:24:55	Real-time –	Dump Gain Table successful

Friday, August 4, 2000

217/17:00:00	ATC	Blackbody to 315K
217/17:00:30	ATC	Blackbody duty cycle to 100%

This Week's Scheduled MODIS Activities Not Completed:

None

Upcoming MODIS Events:

Saturday, August 5, 2000

218/00:00:00	ATC Blackbody to 270K
218/00:00:30	ATC Blackbody duty cycle to 33%
218/22:00:00	ATC Blackbody to 315K
218/22:00:30	ATC Blackbody duty cycle to 100%

Sunday, August 6, 2000

219/05:00:00	ATC Blackbody to 270K
219/05:00:30	ATC Blackbody duty cycle to 33%

Monday, August 7, 2000

220/03:00:00	ATC Blackbody to 290K
220/14:00:??	Real-time – Set Itwk/Vdet to 79/190
220/14:00:??	Real-time – Transition to Standby
220/14:00:??	Real-time – Transition to Low Power
220/14:00:??	Real-time – Turn on Cold Stage
220/14:30:??	Real-time – Turn on Intermediate Stage
220/16:30:00:??	Real-time – Turn on Outer Stage
220/19:00	Attain 318K

Tuesday, August 8, 2000

221/19:00:??	Real-time – Transition to Standby (timing depends on heater temperature warm-up rate)
221/23:00:??	Real-time – Transition to Science
221/23:00:??	Real-time – Turn on Blackbody
221/23:00:??	Real-time – Set Blackbody to 285K

Wednesday, August 9, 2000

None

Thursday, August 10, 2000

None

223/23:00	Should be controlling at 83K today
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Friday, August 11, 2000

None

Maneuvers:

Wednesday, August 2, 2000 - Drag makeup maneuver (215/19:30:00)

MODIS Anomalies:

The Radiative Cooler has negative margin, therefore the cold focal planes are no longer under thermal control. This affects bands 5, 6, 7, and 20-36. Analysis is underway.

It appears that the gains for band 14H were reset to the original launch values some time between 2000/173/23:45 – 2000/174/03:55. Investigation is underway to determine the reason.

General Instrument Comments:

MODIS is in Science Mode on the A-side with the SVD and NAD open.

Gain Changes

Band #	Detector	Current Gain	New Gain
24	1	108	102
24	2	100	94
24	3	97	92
24	4	98	93
24	5	102	96
24	6	101	95
24	7	94	89
24	8	93	88
24	9	99	94
24	10	94	89
25	1	148	136
25	2	127	127
25	3	120	114
25	4	115	109
25	5	119	113
25	6	115	109
25	7	119	113
25	8	109	103
25	9	109	103
25	10	115	109
27	1	238	228
27	2	219	209
27	3	231	221
27	4	238	238
27	5	238	238
27	6	238	238

27	7	238	238
27	8	238	238
27	9	238	238
27	10	238	238

#### MODIS Telemetry Trends:

See MODIS Anomalies section.

#### Non-MODIS Significant Events:

Wednesday, July 19 (Day 201) the EOS Operations Center switched to the upgraded on-line operations software build, Rev C. They will also upgrade to Project Database (PDB) 28. The switchover went well and the MODIS IOT is comfortable with the upgrades.

Data processing by EDOS is currently running at a "degraded level". For a detailed summary of the events that have affected their products, view the EOS System Status web page (<http://jupiter02.gsfc.nasa.gov:591/sysstat/>) and select the EDOS summary link at the top of the page. A key item to note is from day 6/27/2000 at 12:11:19 PM: " The second major issue is the amount of data that EDOS is receiving since ASTER has been fully turned on." With the new, higher data output of ASTER, even less "spare" time will be available to EDOS for the processing of backlogged or reprocessing of data.

#### Limited Life Item Status:

SRCA 10W Lamp #1: 173.3 of 500 hours  
 SRCA 10W Lamp #2: 135.9 of 500 hours  
 SRCA 10W Lamp #3: 145.1 of 500 hours  
 SRCA 10W Lamp #4: 61.5 of 500 hours

SRCA 1W Lamp #1: 555.8 of 4000 hours  
 SRCA 1W Lamp #2: 276.3 of 4000 hours

Solar Diffuser Door: 1393 of 3022 Movements  
 Nadir Aperture Door: 532 of 1316 Movements  
 Space View Door: 437 of 1316 Movements